

Work Order ID 138049

138049

Page 1

Thursday, October 22, 2015 7:24:50 AM

Item ID: D2230-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Mounting Lug
 Start Date: 10/21/2015 Start Qty: 50.00 *50* Cust Item ID:
 Required Date: 10/21/2015 Req'd Qty: 50.00 *50* Customer:
 Reference:

Approvals: Process Plan: MLS Date: OCT 22 2015 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start *NR1*
 Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2230	Rev G

110 Outsource process - Machining 0.00
 110 HAAS CNC VERTICAL MACHINING #1
 Outsource5 Memo 0.00
 Outsource process - Machining Issue P/O to Metec : 30248
 Machine as per dwg
 C of C is required

CL OCT 23 2015 50

120 Receive & Inspect for Damage & Mat'l Certs 0.00
 120
 Packaging Memo 0.02
 Packaging Ensure C of C is attach

50x SP15-11-03

130 QC6- Inspect dimensions to drawing 0.00
 130
 QC Memo 0.00
 Quality Control

50

DAS
38
9-89
NOV 03 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 138049

Thursday, October 22, 2015 7:24:50 AM

138049

Page 2

Item ID: D2230-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Mounting Lug
Start Date: 10/21/2015 Start Qty: 50.00 ***50*** Cust Item ID:
Required Date: 10/21/2015 Req'd Qty: 50.00 ***50*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 <i>Memo</i>	0.00 <i>N/A</i> 0.00							
150 *150* QC Quality Control	QC7-Inspect Chemical Conversion Coat <i>Memo</i>	0.00 <i>N/A</i> 0.01							
160 *160* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>Memo</i> START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____	0.00 <i>N/A</i> 0.00							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Work Order ID 138049***138049***

Page 3

Thursday, October 22, 2015 7:24:50 AM

Item ID: D2230-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Mounting Lug
Start Date: 10/21/2015 Start Qty: 50.00 ***50*** Cust Item ID:
Required Date: 10/21/2015 Req'd Qty: 50.00 ***50*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC3- Inspect Part Finish	0.00							DAS 38 9-89
170									
QC	Memo	0.01							
Quality Control									NOV 0 2 2015
180	Identify as per dwg & Stock Location: <u>st SOB</u>	0.00							
180									
Packaging	Memo	0.01							
Packaging									NOV 0 3 2015
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.08							
Quality Control									NOV 0 3 2015

MLJ NOV 0 3 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

Picklist Print

Thursday, October 22, 2015 7:24:54 AM

Page 1

Work Order ID: 138049

138049

Parent Item: D2230-1

D2230-1

Parent Item Name: Mounting Lug

Start Date: 10/21/2015

Required Date: 10/21/2015

Start Qty: 50.00

Required Qty: 50.00

Comments: IPP D00.11.01 Added inspection level 8, and removed P/O for powder coatEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2230-1P		Purchased	No				Each	0.0000		50			
D2230-1P									**	50x 8P15-1103			
Lug													
D2423		Manufactured	No			110	f	425.6395	0.0683	3.594737			
D2423									**	CZ 10/23/15			
Lug Extrusion													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				Metec		425.6395151							
					127892	119.689515							
					131451	305.95							

DQA: _____ Date: _____

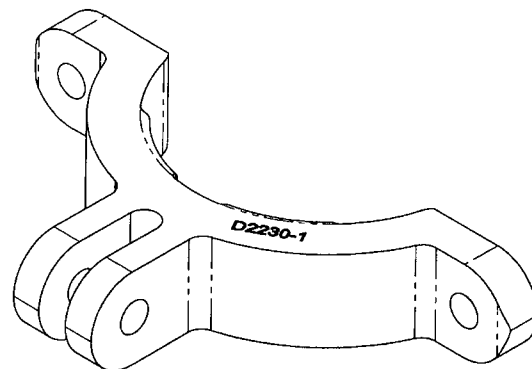


WORK ORDER NON-CONFORMANCE / UPDATE

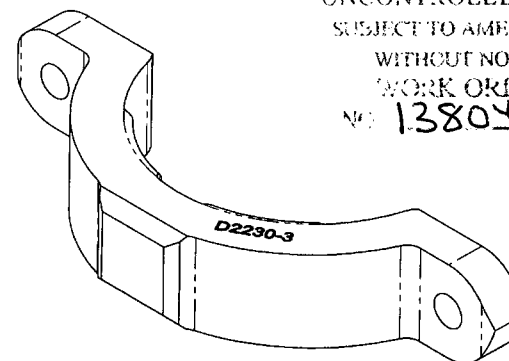
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____				
Description Work Order Deviation				Disposition							
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes		☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
				OTHER :							



D2230-1 MOUNTING LUG



D2230-3 MOUNTING LUG

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO 138049 MJS

15-10-22

RELEASED
09/06/25 MJS

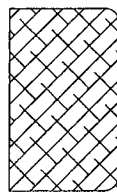


NOTES:

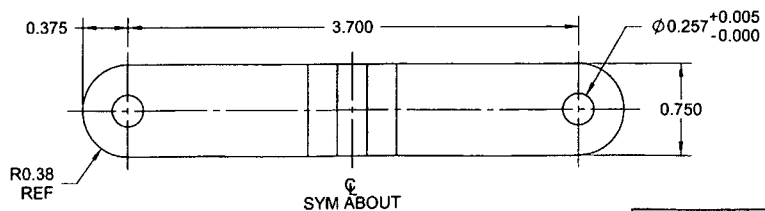
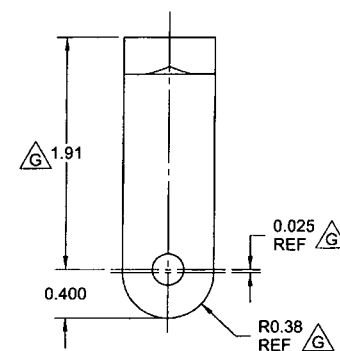
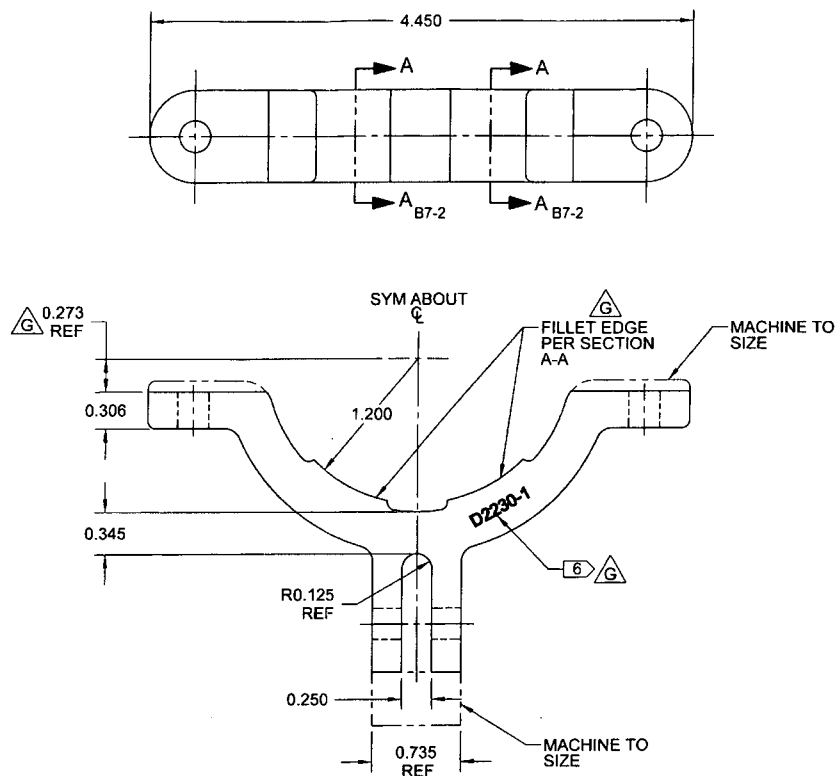
- 1) MATERIAL: MAKE FROM D2423 EXTRUSION
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER TO A DEPTH OF 0.010 ± 0.005 IN THIS LOCATION, WITH TOOL TIP RADIUS OF 0.015 ± 0.005 .
- 7) WEIGHT: -1: 0.16 lbs
-3: 0.14 lbs

G	REDRAWN IN SOLIDWORKS TO CURRENT DESIGN STANDARDS. REFER TO SECTION A-A & B-B FILLET ADDED TO PREVENT CHAFING OF RUBBER CUSHION ON INSTALLATION.	AJS	09.01.16
F	REDESIGN; R1.200 WAS 1.100	CP	99.12.13
E	RE-DESIGN	BW	95.01.04
D	RE-DESIGN	BW	95.01.04
C	RE-DESIGN	BW	94.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	BW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D2230	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		MOUNTING LUG	NTS
DATE	09.01.16	COPYRIGHT © 1994 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

SECTION A-A D4-2
SCALE 2X



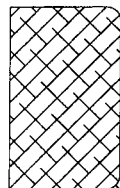
R0.06 MIN - R0.10 MAX
2 PL



D2230-1 MOUNTING LUG

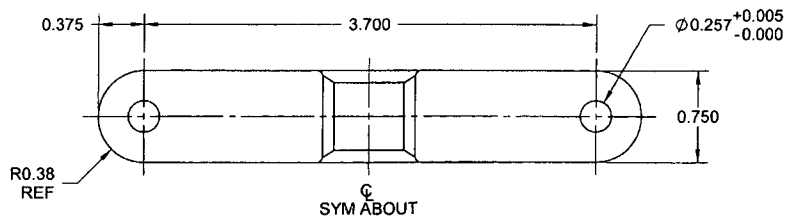
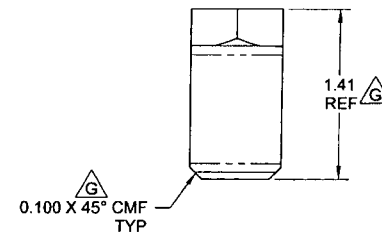
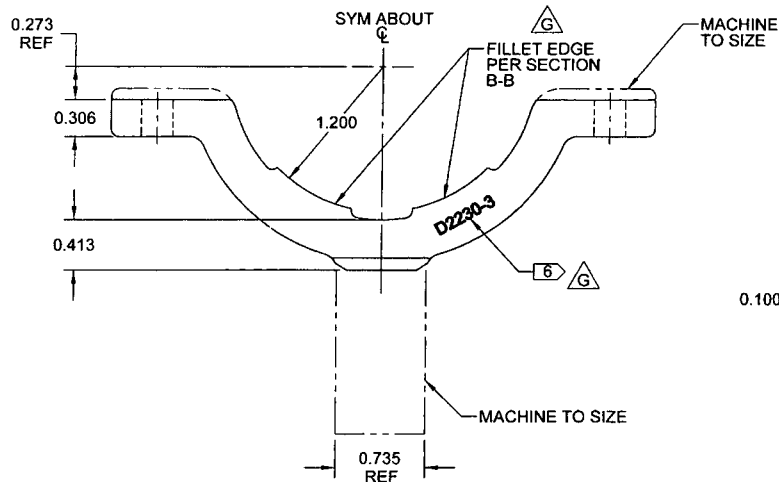
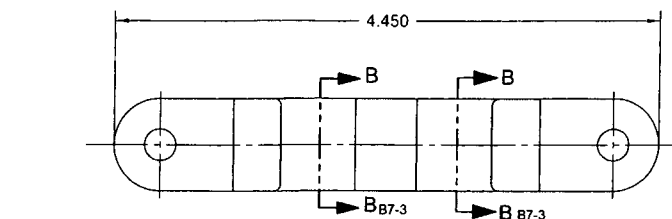
RELEASED
09/06/95

DESIGN	BW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO. D2230	REV. G SHEET 2 OF 3
MFG. APPR.		TITLE MOUNTING LUG	SCALE NTS
APPROVED		COPYRIGHT © 1994 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DE APPR.			
DATE	09.01.16		



SECTION B-B D4-3
SCALE 2X

R0.06 MIN - R0.10 MAX
2 PL



D2230-3 MOUNTING LUG

RELEASED
09/06/16

DESIGN	BW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D2230	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		MOUNTING LUG	NTS
DATE	09.01.16	COPYRIGHT © 1994 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30248**

Purchase Order Date 10/23/2015

PO Print Date 10/23/2015

Page Number 1 of 3

Order From :

VC-MET003

Ship To : DART AEROSPACE LTD

METEC METAL TECHNOLOGY INC.
20 TERRY FOX DRIVE PO BOX 781
VANKLEEK HILL, ON K0B 1R0
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name

Vendor Phone

613 678 3957

Ship To Contact

Ship To Phone

Ship Via:

Dart Truck

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 10

CAD

Destination-Collect

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	D2230-1P	Lug	11/11/2015		50.00 ✓ Each	\$14.00	\$700.00
			Yes				
			11/11/2015				
	AS PER DWG D2230 REV. G B138049 ALODINE AND PAINT AS PER QSI 005						
						Line Total:	\$700.00
2	D2731-3P	Lug	11/11/2015		24.00 Each	\$13.00	\$312.00
			Yes				
			11/11/2015				
	AS PER DWG D2731 REV. C B138050 ALODINE AND PAINT AS PER QSI 005						
						Line Total:	\$312.00

Note:

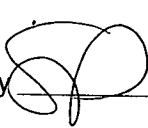
10/23/2015



20 Terry Fox Drive
Vankleek Hill, Ontario K0B 1R0 , Canada
Tel: (613) 678-3957
Fax: (613) 678-3956

Delivery Slip No.: 20793
Date: Oct 15, 2015
Page: 1

Sold to: Dart Aerospace Ltd. Att. Linda Lacelle 1270 Aberdeen Street Hawkesbury, Ontario K6A 1K7	Ship to: Dart Aerospace Ltd. Att. Linda Lacelle 1270 Aberdeen Street Hawkesbury, Ontario K6A 1K7
Order No.: 30248	Sold By: Walz, Christian D.
Shipped By: your truck	Ship Date: Oct 27, 2015

Description	Unit	Ordered quantity	Shipped quantity	Backorder quantity
D2230-1 Mounting Lug, as per drawing D2230 Rev.G, Alodine and Paint as per QSI 005	Each	50	50	
D2731-3 Mounting Lug, as per drawing D2731 Rev.C, Alodine and Paint as per QSI 005	Each	24	24	
D3394-1 Lug Assembly, as per drawing D3394 Rev.B, Alodine and Paint as per QSI 005	Each	20	20	
3910-3 Crosstube Lug, as per drawing D3910 Rev.E, Alodine and Paint as per QSI 005	Each	12		12
3910-5 Lug, as per drawing D3910 Rev.E, Alodine and Paint as per QSI 005	Each	12		12
3910-7 Crosstube Lug, as per drawing D3910 Rev.E, Alodine and Paint as per QSI 005	Each	12		12
3 Boxes sent to Dart Boxes received back from Dart				
The delivered goods must be inspected upon receipt to confirm compliance. Should there be discrepancies please notify METEC within 30 days of delivery. The goods are otherwise deemed accepted.				
Received by  15-11-03		Thank you for your order!		



20 Terry Fox Drive, Vankleek Hill, Ontario K0B 1R0
Tel. (613) 678-3957 & (613) 678-2782 Fax (613) 678-3956 metec@metec.ca

CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME</u>	<u>P.O. NUMBER</u>
50	D2230-1	Lug Batch#127892 Paint#20105	30248
24	D2731-3	Lug Batch#127892 Paint#20082	30248
20	D3394-1	Lug Batch#127892 Paint#20082	30248

MATERIAL: supplied by DART

SP 15-11-03

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.

Jan Norris

Vankleek Hill, October 27, 2015